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## EUROPEAN PATENT APPLICATION

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(54) **Chemical devices, methods of manufacturing and of using chemical devices**

(57) A method of manufacturing a chemical device comprises, providing a first member (10) with a surface portion and a groove (18,20) located at the surface portion, and a second member (14) with a surface portion (16). A coating (34) which may be metallic or organic is provided on either the surface portion of the first or second member. The coating (34) is heated by combined convective heating and microwave irradiation. For a metallic coating (34) the heated coating bonds to the surface portion of the second member (14) so as to close the groove (18,20) to form a channel. For an organic coating the coating heats the surface portions of the two members to a temperature suitable to cause thermal connections. The organic coating then vaporises allowing the surface portions to contact and undergo thermal connection.

A method of controlling hydrostatic and diffusion based flow of a liquid in a chemical device and a method of preparing a working solution of a desired concentration in a chemical device are also described.

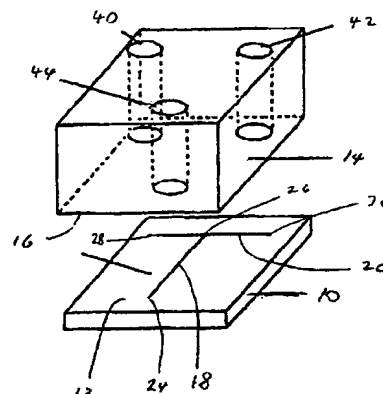


Figure 1

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## EUROPEAN SEARCH REPORT

Application Number  
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| Place of search<br><b>THE HAGUE</b>  |  | Date of completion of the search<br><b>22 May 2002</b> | Examiner<br><b>Hocquet, A</b>   |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |  |  |   |

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Application Number

EP 00 30 5206

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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## EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 5206

| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |  |  |
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| The present search report has been drawn up for all claims   |  |  |  |
| Place of search<br><b>THE HAGUE</b>  |  | Date of completion of the search<br><b>22 May 2002</b> | Examiner<br><b>Hocquet, A</b>              |
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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 00 30 5206

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-21

A method of manufacturing a chemical device and chemical device

2. Claims: 22-32

A method of controlling liquid movement in a chemical device.

3. Claims: 33-43

A method of preparing a working solution of a substance at a desired concentration in a chemical device



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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 5206

| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |   |  |
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|   |   |   | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
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| Place of search<br>THE HAGUE  |   | Date of completion of the search<br>22 May 2002 | Examiner<br>Hocquet, A                       |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |   |   |  |

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